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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/039,277	01/04/2002	Frank D. Husson JR.	SOLAR1120-3	1245
30542	7590	11/30/2005	EXAMINER	
FOLEY & LARDNER LLP P.O. BOX 80278 SAN DIEGO, CA 92138-0278			PRICE, CARL D	
		ART UNIT	PAPER NUMBER	
		3749		
DATE MAILED: 11/30/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/039,277	HUSSON, FRANK D.
	Examiner CARL D. PRICE	Art Unit 3749

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM  
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 16 March 2005 and 14 September 2005.  
 2a) This action is FINAL.                            2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1,3,6,7,9,10,12-15,17-22,26,37-39,43,44 and 47 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1,3,6,7,9,10,12-15,17-22,26,37-39,43,44 and 47 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 16 March 2005 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_.  
 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_.  
 5) Notice of Informal Patent Application (PTO-152)  
 6) Other: \_\_\_\_\_.

## **DETAILED ACTION**

### **Continued Examination Under 37 CFR 1.114**

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 03/16/2005 and 09/14/2005 have been entered.

### **Response to Arguments**

Applicant's arguments with respect to claims 1, 3, 6, 7, 9, 10, 12-15, 17-22, 26, 37-39, 43, 44 and 47 have been considered but are moot in view of the new ground(s) of rejection.

The Declaration filed on 03/16/2005 by applicant under 37 CFR 1.132 attempting to establish nonobviousness by secondary considerations has been considered. However, while secondary considerations such as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented, as indicia of nonobviousness. In view of the teaching of the prior art as a whole, and upon consideration of the information presented in Applicant's declaration, the invention is thought to be obvious for the reasons set forth in the Examiner's rejection of the claims set forth herein below.

The amendment filed **03/13/2005** is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

- Bracket (121) has been added to FIG. 1(B);
- Paragraph (0062) of the specification has been amended to reflect the amendment of FIG. 1.

The specification as originally filed does not support the particular arrangement of elements reflected in the changes made to the Drawing figures and specification.

Applicant is required to cancel the new matter in the reply to this Office Action.

In response to applicant's argument that the Examiner relies on a combination of seven references, and in order to simplify support for the examiner's rejection of the claims, the prior art reference of **GB 1 517 449**, previously cited by the examiner in the office action mailed 11/12/2002 (paper no. 4), is now relied on to establish the level of ordinary skill in the field of endeavor of applicant's claimed invention, but also to show that it was known at the time of applicant's invention to form a solar drinking water heater from heat sealed flexible transparent, reflective and opaque sheets (2, 3, 4), where the "lower sheet 4 should be a 2-ply laminate comprised of a heat insulating base layer...", and a bottom mounted main "inlet and outlet" water opening and cap (7, 9).

Regarding the prior art reference of Ryder, Applicant once again argues that Ryder is non-analogous to the present invention, since Ryder does not relate to pasteurization systems. Applicant's attention is directed to prior art documents "SODIS Technical Note #17, Sodis Bags and Temperature Sensors (<http://www.sodis.ch/files/note17.pdf>)"; "A SUMMARY OF WATER PASTEURIZATION TECHNIQUES"(Dale Andreatta, Ph. D. P.E.)

(<http://solarcooking.org/solarwat.htm>); "Recent Advances in Solar Water Pasteurization (<http://solarcooking.org/metcalf.htm>) and "Enhancement of Solar Water Pasteurization with Reflectors" Negar Safapour and Robert H. Metcalf, Department of Biological Sciences, California State University Sacramento, Sacramento, California 95819-6077

Received 13 July 1998/Accepted 3 November 1998. In view of the level of ordinary skill in the art represented by these prior art teachings, the examiner maintains that a person having this ordinary skill in applicant's field of endeavor would have used known reusable water pasteurization indicators (WAPI) in portable solar water heater containers, such as in **GB 1 517 449**, to indicate the water in the heater has reached a temperature appropriate to ensure

pasteurization. And, in view of the teaching of Ryder, it would have been obvious to a person having ordinary skill in the art to position and/or secured the reusable water pasteurization indicator to the cap, so as to provide ease of access and operation thereof.

Furthermore, in this regard applicant's attention is directed to the Examiner's position set forth in the last office action and re-stated herein below:

In this regard applicant's attention is directed to the following definitions and word analysis of the terms "sterilize" and "pasteurization".

Based on the information presented herein above the examiner's position regarding the prior art teaching of Ryder is unchanged. While the temperature indicator of Ryder is characterized in the context of a "sterilization" system a person having ordinary skill in the art would have recognized the relationship, and relevance, of such a device to "pasteurization" apparatus. As can be seen from the information presented herein above, a person having ordinary skill in the art would understand sterilization as synonymous with pasteurization. And, a person having ordinary skill in the art would clearly understand the close relationship between pasteurization and sterilization since pasteurization is known as "partial sterilization of a substance". Applicant is reminded that the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). The examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). The examiner also recognizes that it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, given the level of ordinary skill in the art as that of

a person recognizing the relationship between pasteurization and sterilization, as noted herein above, when attempting to solve the problem of monitoring temperature conditions within a water vessel to make clean, or to destroy objectionable organisms would be motivated look to analogous and indeed highly relevant teachings such as that presented by Ryder.

Applicant's argument that Ryder is non-analogous since it "relies on external heating device" is noted, but not found persuasive. The heat applied externally to the container in Ryder is not unlike, and indeed analogous to, the solar water pasteurizer of applicant's claimed invention which is heated externally from solar energy radiation.

The examiner disagrees with applicant's assertion that the examiner has relied on Official notice without providing documentary evidence to support the examiner's conclusions. Applicant need only look to the prior art references previously discussed and relied on by the examiner, and the prior art previously cited as art of particular interest, during the prosecution of the present application to find support for the conclusion arrived at by the examiner. The examiner disagrees with applicant's apparent suggestion that it is necessary for the examiner provide documentary support for concepts, such as:

- 1) forming solar energy collection/heat exchange surfaces from rigid material and pleated (i.e. – corrugated material), for the purpose of extending the heated surface area of the collector member;
- 2) providing solar energy collectors with addition solar energy reflector/concentrator (i.e. – a concentrating reflector) means to further increase the amount of solar energy radiation directed onto and absorber by the collector unit;
- 3) passing water through biological carbon filters (e.g. – carbon filters commonly applied to domestic water taps, portable camping water filters, etc.);
- 4) that glass is well known for its non-reactive characteristic when used at high temperatures and when used to contain a variety of chemical species (e.g. – glass is notoriously well known in laboratory applications, mercury thermometers, etc.).

**Drawings Objected to under 37 CFR 1.83(a)**

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “bracket” and “or more indicators” (claim 1) and must be shown or the feature(s) canceled from the claim(s). **No new matter should be entered.**

The drawings submitted on **03/13/2005** are objected to because each drawing sheet submitted are not labeled in the top margin as either **“Replacement Sheet”** or **“New Sheet”** pursuant to 37 CFR 1.121(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either **“Replacement Sheet”** or **“New Sheet”** pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action.

The objection to the drawings will not be held in abeyance.

**Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3, 6, 7, 9, 10, 12, 13, 17-22, 26, 37-39, 43 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over **GB 1 517 449** (of record) in view of **SODIS Technical Note #17, Sodis Bags and Temperature Sensors(newly cited), Burkhardt** (U.S. Patent No. 4557251)(of record), **Ryder (U.S. Patent No. 3939968)** (of record) and **US2847067 (Brewer)**(of record).

**GB 1 517 449** shows and discloses a solar drinking water heater from heat sealed flexible transparent, reflective and opaque sheets (2, 3, 4), where the lower sheet 4 should be a 2-ply laminate comprised of a heat insulating base layer and an upper membrane of material with a reflective surface, and a bottom rear wall mounted filling cap and spout, acting as an "inlet and outlet" water opening, cap (7, 9) and a top inslative air chamber (see figure 6). The material forming the solar drinking water heater of **GB 1 517 449** being capable of maintaining water temperatures in the range of at least 60<sup>0</sup> C (see page 2, lines 53-61).

**GB 1 517 449** shows and discloses the invention substantially as set forth in applicant's claims with possible exception to:

- a glass reusable transparent pasteurizer temperature history indicator secured, via a bracket, to the removable container sealing cap wherein the temperature history determined by visual inspection of a eutectic mixture located within a transparent container; and
- the use of foam insulation.

**Ryder (U.S. Patent No. 3939968)** teaches, form the same sterilization/pasteurizer indicator field of endeavor, that it is known to secure a reusable transparent sterilization/pasteurizer indicator (37,40), via a bracket (14), to a removable container sealing cap (11). The

temperature history being determined by visual inspection of a eutectic mixture located within a transparent container.

**SODIS Technical Note #17, Sodis Bags and Temperature Sensors** (see also "A SUMMARY OF WATER PASTEURIZATION TECHNIQUES"(Dale Andreatta, Ph. D. P.E.); "Recent Advances in Solar Water Pasteurization and "Enhancement of Solar Water Pasteurization with Reflectors"). **SODIS Technical Note #17, Sodis Bags and Temperature Sensors** discloses the use of reusable water pasteurization indicators (i.e. – WAPI) placed within portable solar water pasteurization devices. The reusable water pasteurization indicators (WAPI) include a transparent container relying on a volume of wax to be melted thereby indicating the device has reached a temperature appropriate to ensure pasteurization. In each of these prior art teachings, the indicator is reused by turning over the wax container to re-orient the wax to the top of the container. It is noted that reusable water pasteurization indicators **SODIS Technical Note #17, Sodis Bags and Temperature Sensors** operate in a manner not unlike that the indicator in **Ryder** (i.e. - a transparent container relying on a volume of wax to be melted thereby indicating the device has reached a temperature appropriate to ensure sterilization).

**US2847067 (Brewer)** teaches, from the same sterilization/pasteurizer indicator field of endeavor, that it is known to use molten pellet as a temperature responsive material held in a repositionable/re-usable glass vial sterilization temperature indicator. **US2847067 (Brewer)** also teaches using the disclosed temperature indicator as a means to measure and to insure an adequate period of time for achieving sterilization.

**Burkhardt** teaches, from applicant's same portable flexible solar energy water heating field of endeavor, that it is well known to make use of energy collected from solar radiation to, in portable devices, raise the temperature of water sufficient to bring about pasteurization/sterilization of the water for "**the purpose of sterilizing water where a supply of pure water is not available.**". **Burkhardt** furthermore discloses a useful relationship between water depth (about 4 cm), water temperature (boiling point), rate of heating of the water, available solar radiation (an average summer's day) and time (about 8 hours) necessary to achieve the stated purpose. Burkhardt therefore clearly teaches the person having ordinary skill in the art that a

suitable time necessary to bring about sterilization/pasteurization of water in a portable solar water processing method or apparatus is dependant on numerous design concerns such as those listed herein above. In addition, **Burkhardt** clearly teaches the person having ordinary skill in the art techniques necessary for permitting solar radiation to be directed into the water body, and for reducing heat loss from the body of water. Burkhardt includes, for example, a sealed air space between the transparent cover (21) and an upper wall (28) of the water container, applying a layer of foam insulation about the side and rear portions of water body to reduce heat loss, selecting materials having properties suitable for the high temperature operation of the apparatus, forming the water container of a light-transparent material while coating the upper/inner surface of the insulated backing layer with a black light-absorptive coating, etc. The overall arrangement of elements of the solar water heater/sterilizer of **Burkhardt** being not unlike that claimed by applicant. The container of **Burkhardt** is both flexible and expansive in that "In use, under pressure of boiling water within the flask 13, the back wall 29 bulges downwardly into contact with the adjacent surface 50 of the insulation material 19 ...".

In regard to claims **1, 3, 6, 7, 9, 10, 12, 13,17-22, 26, 37-39, 43 and 47**, for the purpose of generating potable sterilized/pasteurized water in an location where a supply of pure water is not available, it would have been obvious to a person having ordinary skill in the art to modify, by providing suitable foam insulation, and operate the apparatus of **GB 1 517 449** for a period of time sufficient to achieve water temperatures of at least 60 degrees C, in a method of water pasteurization, in view of the teaching of **SODIS Technical Note #17, Sodis Bags and Temperature Sensors** and/or **Burkhardt**. Also, in regard to claims 1 and 43, in particular, for the purpose of providing means to visually inspect and monitor the temperature history of a water heating cycle during operation of the heater to pasteurize water, or a method of pasteurizing water, it would have been obvious to a person having ordinary skill in the art to substitute or modify the cap of **GB 1 517 449** to include a bracket mounted reusable transparent sterilization/ pasteurizer indicator (WAPI), in view of the teaching of **Ryder**. That is, in view of the level of ordinary skill in the art represented by the prior art teaching in **SODIS Technical Note #17, Sodis Bags and Temperature Sensors**, the examiner maintains that a person have this ordinary skill in applicant's filed of endeavor would have used known reusable water

pasteurization indicators (WAPI) in portable solar water heater containers, such as in **GB 1 517 449**, to indicate the water in the heater has reached a temperature appropriate to ensure pasteurization. And, in view of the teaching of **Ryder**, it would have been obvious to a person having ordinary skill in the art to position and/or secured the reusable water pasteurization indicator to the cap, so as to provide ease of access and operation thereof. Also, in view of the teachings of **US2847067** (Brewer), it would have been obvious to a person having ordinary skill in the art to use wax as the in temperature responsive material held in a glass vial, and to use the temperature indicator as a means to measure and to insure an adequate period of time for achieving sterilization/pasteurization of the water in **GB 1 517 449**. And, Official Notice is also taken that glass is well known for its non-reactive characteristic when used at high temperatures and when used to contain a variety of chemical species (e.g. – glass is notoriously well known in laboratory applications, mercury thermometers, etc.). Therefore, in view of that which is well known, for the purpose of providing a non-reactive chemical resistant material, it would have been obvious to a person having ordinary skill in the art to use glass to contain a temperature indicator.

**Claims 10, 14, 15 and 44: rejected under 35 U.S.C. 103(a)**

Claims 10, 14, 15 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over **GB 1 517 449** (of record) in view of **SODIS Technical Note #17, Sodis Bags and Temperature Sensors(newly cited), Burkhardt** (U.S. Patent No. 4557251)(of record), **Ryder** (U.S. Patent No. 3939968) (of record) and **US2847067 (Brewer)**(of record).

**GB 1 517 449** discloses the invention substantially as set forth in the claims with possible exception to the collector/absorber member being pleated and perforated to permit the flow of water from one side to the other side.

Stouman et al teaches, from the same solar energy water heater field of endeavor as by Luboschik et al, the use of a pleated woven polymer energy collecting surface (18) in a portable flexible wall water solar heater. The porous woven polymer material permits the flow of water from a first to a second side of the of the collecting surface while the pleated shape increases the surface area thereof and thereby increasing the rate of solar heat absorption.

In regard to claims 14, 15 and 43, for the purpose of permitting the circulation of water through the surface of the **GB 1 517 449** collector and to increase the amount of solar energy collected, it would have been obvious to a person having ordinary skill in the art to modify the collector to be pleated and perforated, in view of the teaching of either Stoumen.

**Conclusion**

See the attached **PTO FORM 892** for prior art made of record and not relied upon which is considered pertinent to applicant's disclosure.

**USPTO CONTACT INFORMATION**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CARL D. PRICE whose telephone number is (571) 272-4880. The examiner can normally be reached on Monday through Friday between 6:30am-3:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ehud Gartenberg can be reached on (571) 272-4828. The fax phone numbers for the organization where this application or proceeding is assigned are (571) 273-8300 for regular communications and (571) 273-8300 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-3750.



CARL D. PRICE  
Primary Examiner  
Art Unit 3749

cp  
November 28, 2005